



# SPECIFICATIONS FOR Solar Water Heating Systems

City of San Diego  
Development Services Department  
1222 First Avenue, MS 401, San Diego, CA 92101-4101

INFORMATION  
BULLETIN

209

September 2018

This Information Bulletin explains the permit process for solar water heating systems. Solar water heating systems shall comply with all applicable California building code requirements, City of San Diego ordinances, and regulations including zoning and planning.

Solar water heating equipment and collectors shall be rated and certified by an accredited listing agency per the California Mechanical Code and California Plumbing Code.

## I. DEFINITIONS

The following is a list of solar water heating system types:

**A. Solar Pool Heating Systems** are collectors and components that supply heated water directly to a swimming pool for comfort.

**B. Solar Domestic Water Heating Systems** are collectors and components that heat or preheat domestic potable water boosted to a higher temperature. All solar domestic water heating systems have a secondary means of providing heated domestic potable water via an alternate heat source (i.e., electrical utility, natural gas, additional indirect thermal heat exchanger).

**C. Solar Water Space Heating Systems** are collectors and components that preheat or primarily heat water serving all or a portion of building space heating/cooling requirements. All solar water space heating systems must be equipped with a secondary means of providing space heating via an alternate heat source (i.e., electric utility, natural gas, additional indirect thermal heat exchanger).

## II. PERMIT EXCEPTIONS

Solar pool heating systems serving existing single-family, duplex, or townhouse structures are exempt from a permit when the project scope of work:

### Documents referenced in this Information Bulletin

- California Mechanical Code ([CMC](#))
- California Plumbing Code ([CPC](#))
- [Information Bulletin 103](#), Fee Schedule for Mechanical, Plumbing/Gas, Electrical Permits
- [Information Bulletin 116](#), Reporting Requirements for Hazardous Materials
- [Information Bulletin 122](#), Site Plan and Vicinity Maps
- [Information Bulletin 501](#), Fee Schedule Construction Permits – Structures
- [Information Bulletin 580](#), Potential Historical Resource Review
- [Information Bulletin 581](#), Designated Historical Resource Review
- General Application, [DS-3032](#)
- Hazardous Materials Reporting Form, [DS-165](#)
- Storm Water Requirements Applicability Checklist, [DS-560](#)
- Refund Application, [DS-721](#)
- City of San Diego Circuit Card, [DS-1779](#)
- San Diego Regional Hazardous Materials Questionnaire, [HM-9171](#)

**A.** Does not include structural modifications needed due to the installation,

**B.** Does not include connection to potable water systems, and

**C.** Does not include electrical work or the addition of any circuit(s).

## III. PERMITS REQUIRED

Unless otherwise exempt per Section II above, the following permits are required for solar water heating system installations.

### A. Building Permit.

The installation of any solar water heating system that requires alteration to an existing structure or the construction of a new structure requires a building permit. Single-family, duplex, or townhouse structures require a combination permit which includes mechanical/plumbing and electrical work associated with the

project. All other projects require separate mechanical, electrical, and plumbing permits depending on the scope of work. See Information Bulletin 103, "Fee Schedule for Mechanical, Plumbing/Gas, Electrical Permits" to determine if the project is eligible for no-plan permits.

#### **B. Mechanical/Plumbing Permits.**

1. Installation of new pumps, heat exchangers, storage/expansion tanks, or other equipment/pressure vessels requires a mechanical permit.
2. Connection to potable water systems requires a plumbing permit.

#### **C. Electrical Permit.**

Electrical work or the addition of any circuits requires an electrical permit.

### **IV. SUBMITTAL REQUIREMENTS**

The following plans and documents shall be provided along with the appropriate fees:

#### **A. Application Package.**

1. **General Application**, Form DS-3032.
2. **Owner-Builder Verification.** If the property owner is performing the work, a separate Owner-Builder Verification form (DS-3042) must be completed and signed by the owner.
3. **Hazardous Materials Reporting.** Hazardous Materials Reporting Form, DS-165 shall be required in accordance with Information Bulletin 116, "Reporting Requirements for Hazardous Materials". Hazardous materials plan review is required if anything other than water is used in any solar water heating system (including, but not limited to, propylene and ethylene glycol).
4. **San Diego Regional Hazardous Materials Questionnaire**, Form DS-560 when a Building Permit is required.
5. **Storm Water Requirements Applicability Checklist**, Form HM-

9171 when a Building Permit is required.

#### **B. Plans.**

Plans must be drawn to scale and must be of sufficient clarity to indicate the location, nature, and extent of the work proposed. Provide 3 sets of plans with the following information:

1. Detailed project scope of work on the title sheet.
2. Site plan per Information Bulletin 122 including general arrangement/orientation of the property and building, distance from property line, and solar collector layout, quantity, and location.
3. Structural plans, anchorage details, and calculations are required if the project scope of work includes any of the following:
  - a. Any equipment attached to an accessory structure to support the system including, but not limited to, carports, canopies, shade structures, or storage structures,
  - b. Alterations to an existing structure to provide attachment for systems, supports, equipment, anchors, or bracing,
  - c. A roof-mounted system weighing more than 6 pounds per square foot,
  - d. Any equipment exceeding a weight of 400 pounds in total or a center of mass more than four feet above floor level (including collectors, heat exchangers, storage tanks, expansion tanks, etc.),
  - e. Any equipment extending more than 42 inches in height at any point above the existing roofing material of the structure, or
  - f. Suspension, anchoring, or bracing of any equipment, fixture, piping, or conduit.

4. Mechanical plans are required for all non-residential or MDU structures if

pumps, heat exchangers, storage tanks, expansion tanks, or other ancillary equipment or pressure vessels are to be installed as part of any solar water heating system. Plans should indicate:

- a. Equipment locations,
- b. Arrangement of equipment,
- c. Equipment schedules, and
- d. Product data for solar collectors proposed indicating rating and certification by an accredited listing agency.

5. Plumbing plans are required for all non-residential or multiple dwelling unit (MDU) structures if a solar water heating system is proposed with service (including isolated preheat loop) or connection to a potable water system. A system flow diagram shall be provided including any plumbing fixtures proposed for installation.

6. Electrical plans are required for all non-residential or MDU structures. A circuit card must be filled out and available on the job site for review by the inspector at rough inspection. Plans should indicate:
  - a. Arrangement of equipment and panel location(s),
  - b. A single-line diagram, and
  - c. Load calculations.

#### **D. Other Requirements.**

Zoning, planning, historical, landscape, and/or brush management reviews may also be required depending on building location, characteristics, and project scope of work. Historical plan review is required if the project impacts a designated or potential historic resource.

1. **Historical Review - Designated Historic** - If your project involves any parcel containing a designated historical resource, or is located within the boundaries of an adopted historic district, plans will be required and shall be submitted for Historical Review. Please refer to Information Bulletin 581, "Designated Historical Resource

Review" for additional information.

2. **Historical Review - Potential Historic Resource** - If the site contains buildings or structures 45 years old or older, and the scope includes any exterior work, plans and other information will be required and shall be submitted for Historical Review. See Information Bulletin 580, "Potential Historical Resource Review" for supplemental submittal requirements. Because of a commitment to consider public information in the review of projects 45 years or older, there is no over-the-counter review. The length of this review will typically be 10 business days.

#### **V. FEES**

Plan check fees are required to be paid prior to review. For your convenience, DSD offers online payments through OpenDSD. Payment may also be made in person by cash, check, debit card, or major credit card. Checks shall be in the exact amount, drawn on US banks, and made payable to the "City Treasurer." Due to space constraints, we are unable to store submitted plans awaiting fee payment.

Please note that plan check fees and other administrative fees are nonrefundable. Inspection fees may be refundable. See Refund Policy noted within Refund Application Form DS-721 for additional refund information.

#### **A. Solar Water Heating System Projects Serving Existing Single-Family, Duplex, and Townhouse Structures.**

Please see Information Bulletin 501 and Information Bulletin 103 for additional fees depending on building location, characteristics, and project scope of work.

Inspection.....	\$153.64
Records Fee .....	\$45

#### **B. All Other Projects**

Electrical Please reference Information Bulletin 103, "Fee Schedule for Mechanical, Plumbing/Gas, Electrical Permits" and Information Bulletin 501, "Fee Schedule Construction Permits - Structures".

**VI. OPTIONS FOR SERVICE**

Appointments to submit applications and plans are recommended and can be scheduled by calling 619-446-5300. Permit submittal/issuance walk-in service is available at the Development Services Department located at 1222 First Avenue, 3rd Floor. Please visit the department website at [www.sandiego.gov/development-services](http://www.sandiego.gov/development-services) for a list of business hours.